



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/072,574	02/06/2002	Markus Kukuk	2001P07456 US01	1940
7590 06/15/2004			EXAMINER	
Siemens Corporation Intellectual Property Department 186 Wood Avenue South Iselin, NJ 08830			LEUBECKER, JOHN P	
			ART UNIT	PAPER NUMBER
			3739	

DATE MAILED: 06/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/072,574

Applicant(s)

KUKUK, MARKUS

Examiner

John P. Leubecker

Art Unit

3739

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-25 and 29-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12-25 is/are allowed.
- 6) ☒ Claim(s) 1-11, 29 and 30 is/are rejected.
- 7) ☒ Claim(s) 31 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Claim Objections***

1. Claim 31 is objected to because of the following informalities: in claim 31, line 1, -- wherein-- should be inserted before "determining". Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 31 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claim 31, term "the flexible instrument" lacks antecedent basis. The term "instrument" should be --endoscope--.

***Claim Rejections - 35 USC § 102***

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1-11, 29 and 30 are rejected under 35 U.S.C. 102(e) as being anticipated by Guthrie et al. (U.S. Pat. 6,409,686).

Guthrie et al. disclose a method for determining instructions for handling a flexible instrument comprising parameterizing the flexible instrument (1,2,4) (col.2, lines 24-28) according to a plurality of parameters (e.g., angle of arm 1, length of probe, etc.), determining,

Art Unit: 3739

pre-operatively (col.2, lines 45-50), at least one instrument configuration for aligning the tip with the target (shown in Figure 1, col.3, lines 29-35), and determining instructions prior to insertion into the patient (calculating angle of axis 3, distance D, etc.) for aligning the tip of the instrument with a target according to the configuration. Although only the angle of axis (3) is required for the instructions to align the tip with the target, the distance (D) provides addition instruction to dock the tip with the target. Since numerical values are used through the encoded joints of arm (1) and for the distance (D), a digital model of the flexible instrument is determined. As to claims 3-6, any known physical traits or capabilities of the instrument will inherently parameterize that instrument (e.g., the instrument, as well as any object, will have a known length and thus length is a parameter). Since it is not explicitly mentioned, shaft rotation (e.g., of probe 4) would be determined as being the value of zero. Since the probe has a tool (tip 8 or one of the various other tools described in col.1, lines 55-57) with a known length, the length of the tool is a parameter. (With respect to claims 3-6, it is noted that Applicant might have intended determination of specific values of the parameters to be defining the "configuration determining" step and not the parameterizing step, which merely recognizes variable representative values that can be used to define the physical aspects of the instrument). Note that distance is determined with respect to anatomical landmark (8, Fig.1). Note a patient model is determined (col.2, lines 35-38). When using tool such as a forceps (col.1, lines 55-57) with no imaging capability, the instructions would guide a blind biopsy of the target.

6. Claims 1-9 and 29 are rejected under 35 U.S.C. 102(e) as being anticipated by Alft et al. (US 2003/0173113).

Alft et al. disclose a method for determining instructions for handling a flexible instrument comprising parameterizing the flexible instrument according to a plurality of parameters for handling the instrument (length, rotation, angle of deflection and tool (bore tool 24) length are all known and are thus determined), determining, pre-operatively, at least one instrument configuration for aligning a tip of the instrument with a target (determination of a preoperative bore plan to guide the bore tool 24 to a target exit point, paragraph [0009]), determining instructions for aligning the tip of the instrument with the target (control of boring machine according to bore plan, paragraph [0210]). Since the bore path is defined by numerical values (note Figure 17), a digital model of the flexible instrument is determined.

*Allowable Subject Matter*

7. Claims 12-25 are allowed over the prior art of record.
8. Claim 31 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.
9. The following is a statement of reasons for the indication of allowable subject matter:  
  
Applicant has successfully persuaded the Examiner that Sekiguchi et al. ('029) fails to show pre-operative determination of an endoscope configuration of the parameters (plural). The flexibility of the endoscope provided by the stored flexibility patterns is only one parameter. Sekiguchi et al. explicitly discloses that other configuration parameters are inputted after the

Art Unit: 3739

procedure has started (note col.10, lines 32-53). In addition, Guthrie et al. and Alft et al. do not explicitly teach their disclosed methods with respect to a flexible endoscope. Although Guthrie et al. mentions that the probe (4) could take the form of an endoscope (col.4, lines 15-19), the method steps taught by Guthrie et al. apply to the instrument including the arm (1) and not the probe (4) itself.

### ***Response to Arguments***

Applicant's arguments filed March 29, 2004 have been fully considered and are partly persuasive. Thus, the rejection over Sekiguchi et al. ('029) has been withdrawn with respect to claims 12-25. However, as necessitated by Applicant's amendments, new prior art rejections on claims 1-11 appear above.

Applicant has successfully persuaded the Examiner that Sekiguchi et al. ('029) fails to show pre-operative determination of a configuration that describes at least one parameter for aligning a tip of the instrument with a target, as in amended claim 1 (note page 10, line 15 to page 11, line 18). Although the flexibility patterns stored in the database of Sekiguchi et al. are "preoperatively" recorded and they set the tip of the instrument in a predefined position (note Figure 13), the determination of a particular one of these patterns is not done preoperatively and the configurations defined by these patterns are not explicitly disclosed as aligning a tip of the instrument with a target.

### ***Conclusion***

Art Unit: 3739

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

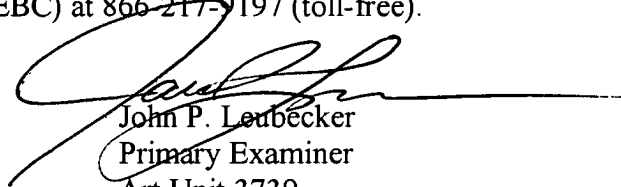
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John P. Leubecker whose telephone number is (703) 308-0951. The examiner can normally be reached on Monday through Friday, 6:00 AM to 2:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda C.M. Dvorak can be reached on (703) 308-0994. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 3739

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



John P. Leubecker  
Primary Examiner  
Art Unit 3739

jpl